

REDISCOVERY OF *PONTHIEVA BRITTONIAE* (ORCHIDACEAE) IN EVERGLADES NATIONAL PARK¹

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ABSTRACT

The rediscovery of *Ponthieva brittoniae* is reported. The two populations found in Everglades National Park, Miami-Dade County, Florida, represent the only plants currently known from the United States.

RESUMEN

Se cita el redescubrimiento de *Ponthieva brittoniae*. Las dos poblaciones encontradas en el Parque Nacional de los Everglades, en el condado de Miami-Dade, estado de Florida, representan actualmente las únicas plantas conocidas de los Estados Unidos.

Reports of *Ponthieva brittoniae* Ames in the United States have been few since its initial discovery. This species was first collected in southern Florida by botanists J.K. Small and J.J. Carter. Plants were collected in 1909 near Perrine, Florida, and in the Long Pine Key area of what is now Everglades National Park. Fifty-two years later, F.C. Craighead Sr. made a collection in the eastern portion of Long Pine Key near Osteen Hammock. The next report of *P. brittoniae* was made by R.L. Hammer, who found a population of plants growing along a firebreak road in central Long Pine Key in 1979 (McCartney 1997; Gann et al. 2002). Plants persisted along the road until 1986, when the re-grading of the firebreak is thought to have destroyed them. The last recorded sighting of *P. brittoniae* in the United States occurred in 1987 when a single plant was observed in a solution hole by Chuck McCartney northeast of the Hammer station (McCartney 1997). Since then, multiple searches of the historical locations in Everglades National Park have been carried out by Hammer, McCartney, staff of The Institute for Regional Conservation (IRC) and others. The failure of these efforts to locate plants resulted in the listing of this species as "Historical" in South Florida by IRC (Gann et al. 2002). Currently, *P. brittoniae* is listed as endangered by the state of Florida and critically imperiled by Florida Natural Areas Inventory (Chafin et al. 2000).

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Although *Ponthieva brittoniae* has been reported for two other Florida counties, Brown (2002) identified these populations as the closely related *P. racemosa* (Walter) Mohr. These two species closely resemble one another but can be distinguished on the basis of sepal and labellum shape (Sauleda & Adams 1980). In addition, *P. racemosa* has petals with green striping while *P. brittoniae* does not. The leaves of *P. racemosa* are present at anthesis while the leaves of *P. brittoniae* are usually absent at anthesis (Luer 1972).

Outside of Florida, *Ponthieva brittoniae* is known from the Bahamas (Ackerman 2002), the Turks and Caicos Islands (J.L. Sadle, unpublished), Cuba (Correll & Correll 1982; Nir 2000) and Hispaniola (J.D. Ackerman, pers. comm.). The current status of this species in the Bahamas is unknown, but it has been reported from New Providence and Andros Island. Pine rockland is still present and protected in some areas on both islands. However, the decline of other pine rockland species on New Providence has been attributed to land clearing (Bahamas Environment Technology and Science Commission 1999). In the Turks and Caicos, plants are known from a single, small, protected population on North Caicos Island. The status of *P. brittoniae* in Cuba and Hispaniola is uncertain. This species is considered to be rare and threatened throughout its range (J.D. Ackerman, pers. comm.).

While conducting rare plant surveys as part of the Critical Ecosystems Study Initiative (CESI) in the Long Pine Key region of Everglades National Park, two populations of *Ponthieva brittoniae* were encountered. The first, initially seen in December 2003, was located in the vicinity of where the last plant was seen in 1987. The site was revisited several times between December and February and 102 plants were observed. These plants undoubtedly represent the population last seen by McCartney. The second population, discovered in January 2004, was located approximately 2 km southwest of the original site. In this population, 139 plants were observed. Of the 241 plants, 72 were flowering.

Populations were found in open pine rockland characterized by exposed limestone substrate with extensive solution holes and minimal leaf litter. The majority of the plants were growing on the vertical walls of solution holes within 0.5m of the pineland's exposed limestone surface. A few plants were found in soil filled cracks on limestone surfaces of the limestone and a single plant was observed growing between a downed log and limestone. Prescribed fires had been carried out in both locations between 2003 and 2004.

In an effort to characterize the habitat of this species, three 5m radius plots were centered on solution holes in which *Ponthieva brittoniae* was growing. Plots were located in both populations. A total of 73 species of flowering plants were recorded in the plots. Associated species found within the solution holes of all plots were *Anemia adiantifolia* (L.) Sw., *Bletia purpurca* (Lam.) DC., *Eupatorium leptophyllum* DC., *Metopium toxiferum* (L.) Krug & Urb., *Mikania*

scandens (L.) Willd., *Mitreola sessilifolia* (J.F. Gmel.) G. Don, *Phyllanthus pentaphyllus* C. Wright ex Griseb. var. *floridanus* G.L. Webster, *Polygala grandiflora* Walt., *Pteris bahamensis* (J.G. Agardh) Fée, *Samolus ebracteatus* Kunth and *Sideroxylon salicifolium* (L.) Lam. Species growing on the upland portions of all three plots were *Anemia adiantifolia*, *Echites umbellata* Jacq., *Guapira discolor* (Spreng.) E.L. Little Jr., *Ilex cassine* L., *Jacquemontia curtisii* Peter ex Small, *Mikania scandens*, *Myrica cerifera* L., *Passiflora suberosa* L., *Phyllanthus pentaphyllus* var. *floridanus*, *Physalis walteri* Nutt., *Pteris bahamensis*, *Rapanea punctata* (Lam.) Lundell, *Sabal palmetto* (Walt.) Lodd. ex J.A. & J.H. Schultes, *Samolus ebracteatus*, *Schizachyrium gracile* (Spreng.) Nash and *Tetrazygia bicolor* (P. Mill.) Cogn.

Voucher Specimen: **FLORIDA, Miami-Dade Co.:** Everglades National Park, Long Pine Key, S of Winkley Hammock; in recently burned, previously fire suppressed pine rockland, in solution hole 30 cm from top on vertical face; collected with Everglades National Park permit #EVER-2003-SCI-0084 and Florida Department of Agriculture and Consumer Services Regulated Plant Index Harvesting Permit #561,10 Feb 2004, Sadle 396 (EVER).

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